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Regulatory Information

FCC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Underwriters Laboratories

The model PDI-P14W TV Hospital Grade TV Receiver is a specialized television. This TV is intended for entertainment and educational purposes for use in a hospital, a nursing home, a medical-care center, or a similar health-care facility in which installation is limited to a non-hazardous area in accordance with the National Electrical Code.

This device is safety tested and listed by the Underwriters Laboratories as a product suitable for use in health care facilities in both the United States and Canada.

ESD Notice (Electrostatic Discharge)

Today's electronics are electrostatic discharge (ESD) sensitive. ESD can weaken or damage the electronics in a manner that renders them inoperative or reduces the time until their next failure. Connect an ESD wrist strap to a ground connection point or unpainted metal in the product. Alternatively, you can touch your finger repeatedly to a ground connection point or unpainted metal in the product. Before removing a replacement part from its package, touch the anti-static bag to a ground connection point or unpainted metal in the product. Handle the electronic control assembly by its edges only. When repackaging a failed electronic control assembly in an anti-static bag, observe these same precautions.

Product Safety Servicing Precautions

1. **POWER SOURCE** Use only a power source indicated for use with this product. This TV will operate on either DC or AC voltage. To avoid personal injury, disconnect the power before servicing this product. If electrical power is required for diagnosis or test purposes, disconnect the power immediately after performing the necessary checks.

2. **REPLACEMENT** Replace only with the part number specified.

3. **VOLTAGE CHECKS** Exercise care when making voltage and waveform checks to prevent costly short circuits from damaging the unit.

4. **METAL OBJECTS** Be cautious of lost screws and other metal objects to prevent a possible short in the circuitry.

5. **SAFETY CHECKS** This hospital grade television requires special safety checks before returning to service. Observe and follow the *"Safety Check"* section in this service manual.

6. **DANGER: ARM RECOIL HAZARD** The safety brake pin must remain in the SAFETY BRAKE PIN HOLE whenever the television set is removed from the arm or when the arm is removed from the wall bracket to prevent the arm from springing open.

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PDI-P14W Specifications

PANEL		
Diagonal Size		14.0”
HDTV compatible		Yes
Backlight Type		LED
Display Resolution		1366 x 788
Luminance		300 nits
Contrast Ratio		500:1
Viewing Angle		45”H, 15ºV-up, 35ºV-down
Response Time		8 ms
Panel Lamp Life		50K Hours (modified LED Rails)
Color Range		262k
TV FEATURES		
Parental Control (V-CHIP)		Yes
Auto Power On		Yes
Bed A/B		Yes
Guide Menu Selection of Sources		Yes
Channel Enable/Disable		Yes
Clone Programmable (By USB)		Yes
Pro:idiom/MPEG4		Yes
FM Tuner		Yes
2D digital Comb Filter		Yes
3:2 Pull Down Compensation		Yes
Channel		All channels for ATSC and NTSC
Menu OSD		English/French/Spanish
Progressive Scan		Yes
Antenna Input-Coax		1(75ohm Unbalanced Female F)
Factory Reset		Yes
Selectable Pillow Speaker		No
Universal Pillow Speaker Recognition		No
Programmable Source Selection by Naming		No
Sleep Timer		Yes, using remote
Aspect Ratio Control		16:9, 14:9, 4:3, 16:9 Panoramic
Keypad		Capacitive Touch
Keypad Backlight		Yes, with adjustable brightness
Hand Grip		Yes
Protective Panel		Yes, Chemically strengthened
VIDEO		
NTSC Tuner (Silicon Type)		Air VHF/UHF, CATV,IRC,HRC
ATSC Tuner (Silicon Type)		Air VHF/UHF, CATV,IRC,HRC
QAM in the clear		Air VHF/UHF, CATV,IRC,HRC
Supported Formats		1080p/1080i/720p/480p/480i
AUDIO		
Speakers		2@1-Watt RMS
Analog		Mono/Stereo/SAP
Digital		Multilingual
Front Headphone		Yes, 1/8” jack

HEALTHCARE SPECIFIC AUDIO FEAT.		
Audio Volume Limiter (AVL)		Yes
Internal Speaker Disable		Yes
Min/Max Volume Limiter		Yes
Start/Power-on Volume		Yes
INPUT/OUTPUT CONNECTORS		
RF Input		Yes
HDMI with HDCP		Yes,2
VGA Input		Yes
PC Audio Input		Yes
Component Video Input		Yes
Audio L/R Input		Yes
Digital Audio Output		No
Analog Audio Output		No
S-Video Input		No
Composite Input		Yes
Composite Output		No
Pillow Speaker Jack		No
SD Memory Card		No
USB Port		Yes, Cloning and Firmware Updates
CCI/MTI		Yes
POWER		
Source		Power over Coax
Voltage Input		18-34VAC, 18-32VDC
Consumption		15W
ACCESSORIES		
User’s Manual		Yes
Warranty		Yes, online warranty registration
REGULATORY		
UL/$_C$UL		Yes
Healthcare Grade UL60065		Yes
FCC		Yes
DIMENSIONS		
Weight (Net/Gross) Lbs. (Kg)		7 lbs. (3.175 kg)
Unit Dimension(W/H/D) Inches (cm)		14.5” x 11” x 1.94” (36,9cm x 27.9cm x 4.8cm)
WARRANTY		
Standard		2 years
GVS – Gold Vision Service (Optional)		4 years

Disinfecting and Cleaning

The P14W should be disinfected before performing any service. The following procedure is only a recommendation. Your hospital or company may have a different procedure to follow.

Caution: Before using any cleaning or disinfecting agent on the P14W, perform a spot check by wetting a small area of the cabinet. Verify the agent does not discolor or deteriorate the cabinet.

1. *The P14W has been designed to withstand up to a 5% chlorine based disinfectant. Many alcohol and ammonia based disinfectants have also been tested with success. Apply the cleaner or disinfectant per its recommended instructions.*
   Note: *Most disinfectants require a waiting time following application and prior to wipe-down.*
2. *The manufacturer recommends isopropyl alcohol for the cleaning of the LCD screen.*

Checking Points to Consider

Dynamic picture adjustments to Brightness, Contrast, Color, and Tint are available using the IR Remote Control, Part number PD108-420, using the SETUP/Picture menu.

1. Check the appearance of the replacement panel and circuit boards for both physical damage and part number accuracy.
2. Check the model label. Verify model names and board model matches.
3. Check details of defective condition and history. Contact PDi with serial number for details.

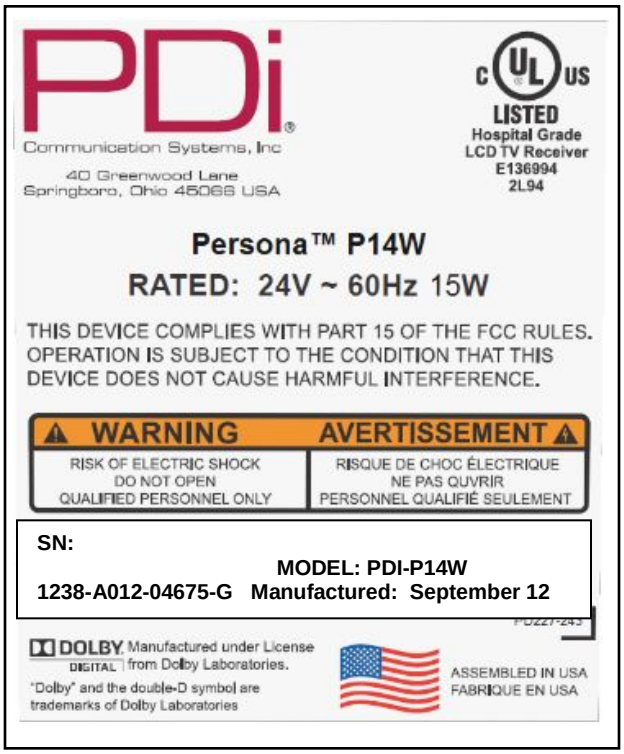
Product Identification

Product Label

The P14W is easily identified using the product label located on the back cabinet housing.

Serial Number Format Explanation

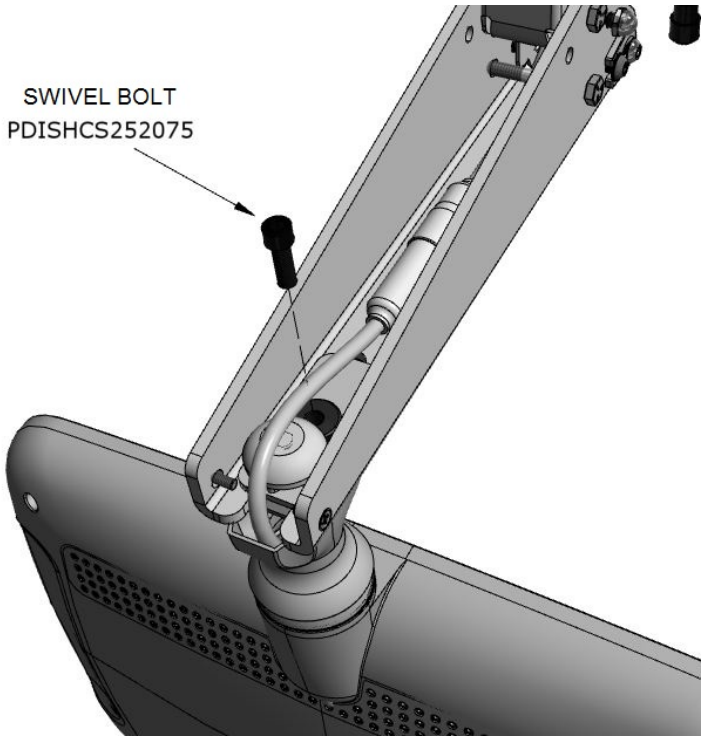
1. The first two digits compose the year of manufacture. 2012 would be 12.
2. The second two digits compose the week of manufacture. 38 would be week 38.
3. The single alphabetic character represents the place of manufacturing.
4. The next three alphanumeric characters compose the unique model ID.
5. The next five digits compose the serial number starting with the first unit produced in the current year.
6. The last character is the revision level.



Disassembly

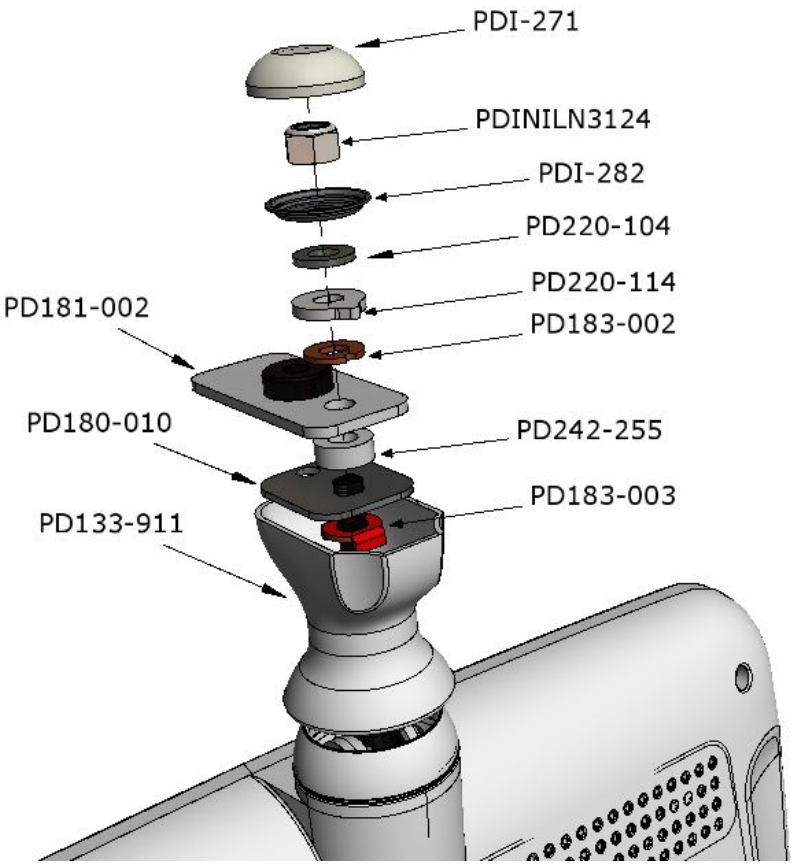
Some part numbers are given in the disassembly instructions for ordering purposes.

- The TV must be removed from the arm and the swivel must be disassembled before working on the TV.
- Disconnect coax cable in arm and remove the swivel bolt securing the TV to the arm.
- Place TV on flat surface and be careful to follow ESD precautions.



Swivel

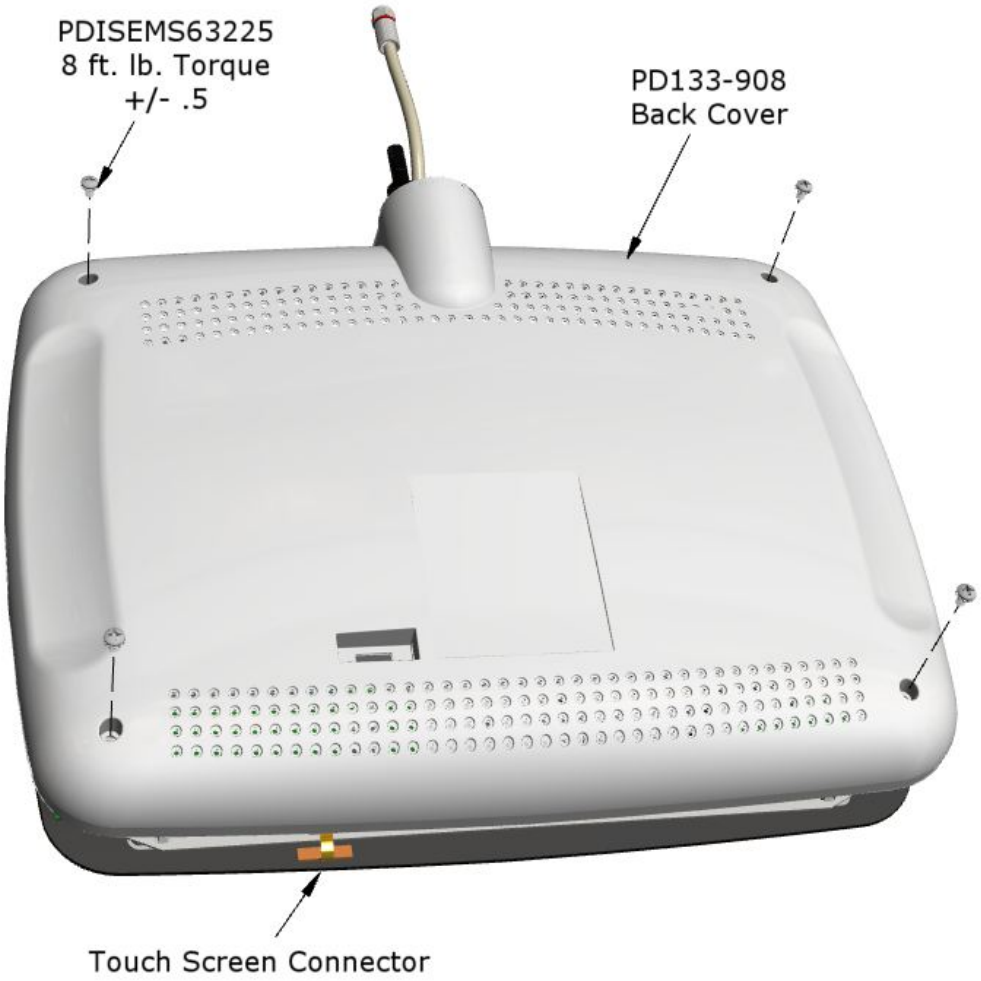
1. Remove the cap by prying it off the washer with a flat head screwdriver.
2. Remove and dispose of the nyloc nut PDINILN3124. Replace the nyloc nut with a new part when reassembling.
3. Remove remaining parts as shown.



Back Cover

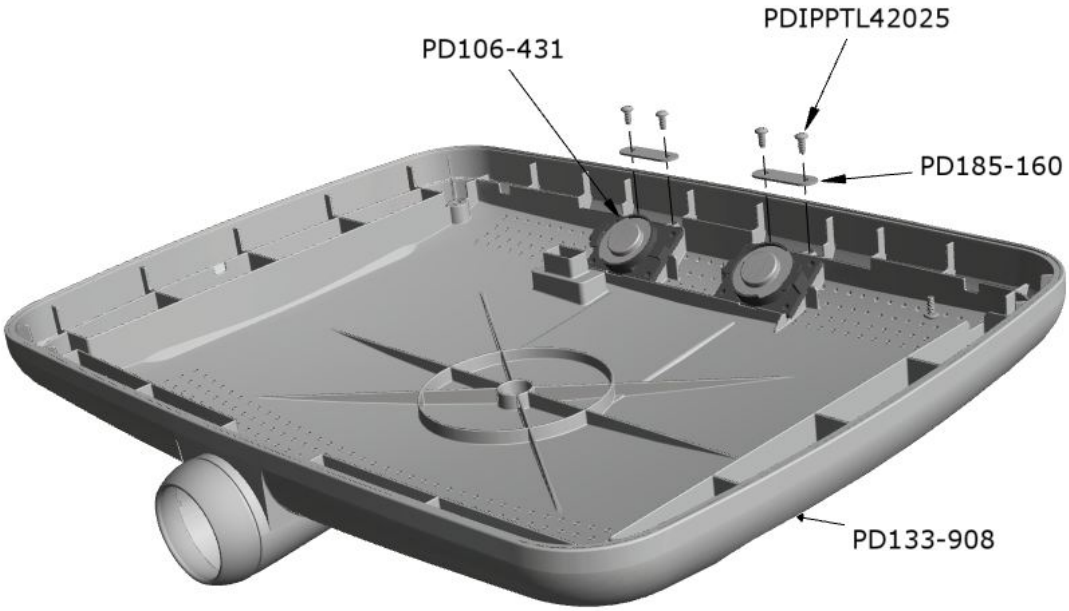
Caution: When removing the back cover, use a pry tool (such as one sold for cell phone and tablet repair) to pop out two upper corners and avoid damage to the touch screen connector.

1. Remove (4) screws from the back cover.
2. Starting at the top of the TV, use pry tool tool to separate the glass from the cabinet.



Speakers

The speakers **PD106-431** are held in place with brackets **PD185-160** and screws **PDIPPTL61925**.
(Speaker wires are not shown)

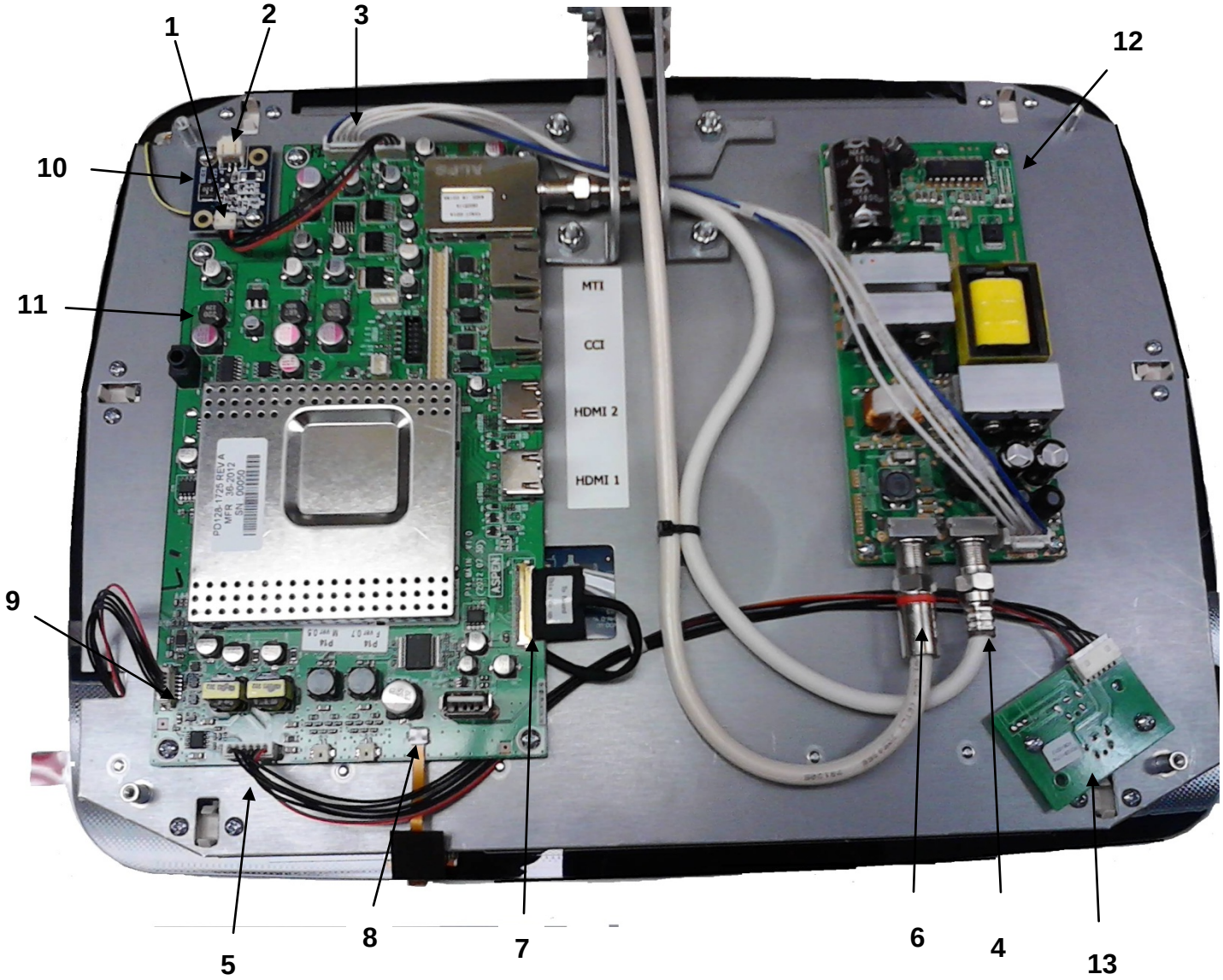


Board Removal

The main board **PD128-1725** is secured with (5) **PDISEMS44025** screws
The power board **PD128-1728** is secured with (4) **PDISEMS44025** screws
The headphone board **PD128-1716** is secured with (2) **PDISEMS44025** screws.
The LED driver board **PD128-1721** is secured with (2) **PDISEMS44025** screws.

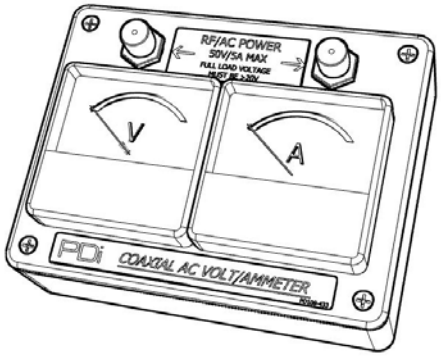
Parts List

1. PD106-736 cable, LED panel drive
2. Backlight cable (from panel)
3. PD106-524, cable, main board to power board
4. PD106-739, cable, coax, internal
5. PD106-738, cable, headphone
6. PD106-740, cable, coax, external
7. PD106-741, cable, data
8. Optional touch screen cable (from window PD128-1727)
9. PD106-737, cable, IR/LED
10. PD128-1721, board, LED driver
11. PD128-1725, board, main
12. PD128-1728, board, power, isolated DC-DC
13. PD128-1716, board, headphone



Test Points

Use the PDi coaxial AC volt/ammeter PD108-433 coaxially connected between the power supply and the unit under test.

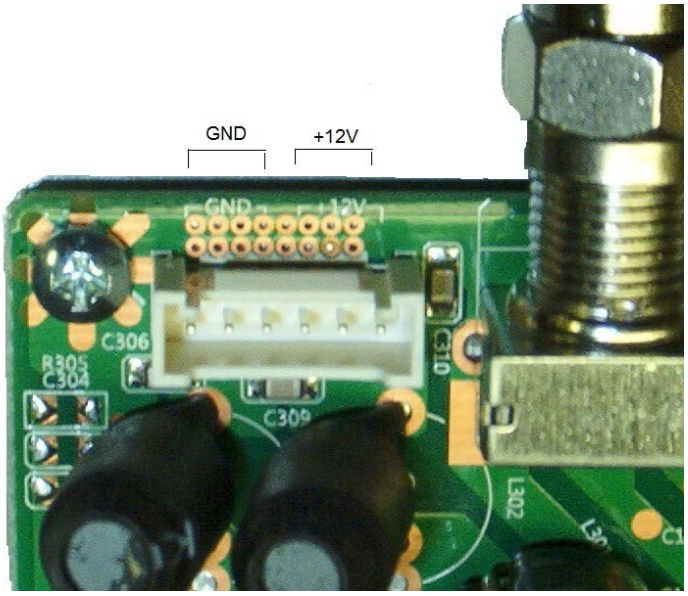


If you have no power indicator check:

- The power at the AC source, ≈120 VAC
- The power out from the PDi power supply, Off≈30V @ ≈100-200mA, On ≈30V @ ≈600mA
- The power out of the P14W power supply, ≈12.6VDC

Power Board

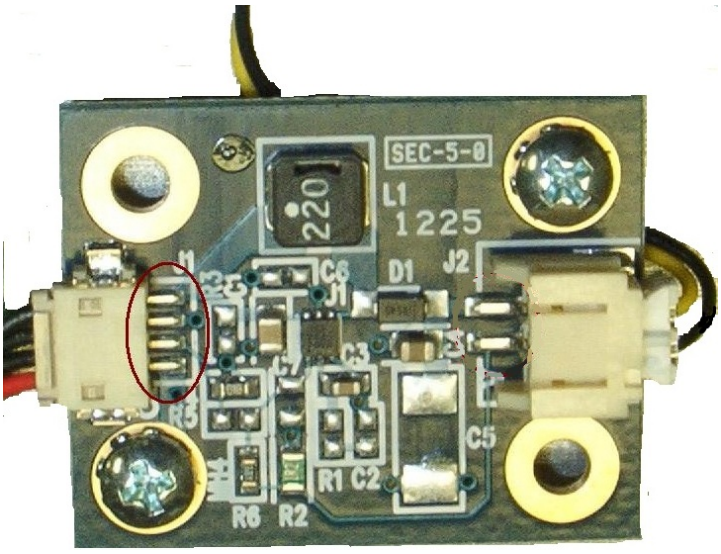
At the power supply output, you should measure ≈12.6VDC.



At the power supply input, measure ≈30VAC between the ground leg of the RF/Power Input RF connector J102 and the test point located between capacitors C106 and C107.

LED Backlight Board

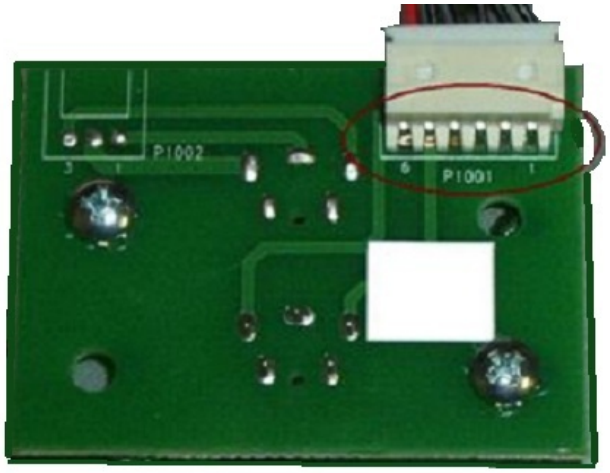
At the LED Backlight Board output (J2), you should measure ≈18.86VDC.



J1	PIN 1 (RED)	PIN 2	PIN 3	PIN 4
DC	TEST POINT	-3.24	0	-9.27
DC		TEST POINT	3.24	-6.04
DC			TEST POINT	-9.22

Headphone Board

At the Headphone board output (with volume at 100%) you should measure:



P1001

	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6
ACV	TEST POINT	0	≈.9	0	0	0
ACV		TEST POINT	≈.6	0	0	0
ACV			TEST POINT	≈1.2	≈1.3	0
ACV				TEST POINT	0	0
ACV					TEST POINT	0

Note: If the power board is functional and the LED and Headphone board are not, change the main board.

Basic Troubleshooting Steps

Many times issues can be resolved by performing a factory reset on the TV. Press and hold down "CC" button on TV and press and hold down "Last" on the remote. Hold both down simultaneously until TV displays a reset message on screen.

Symptom	Check
TV DEAD (No Power)	• Verify TV is connected to a coaxial powered cable • Verify coaxial cable is securely connected to F-connector • Check Power cable for voltage. • Replace power supply board (PD128-1728) • Replace main board (PD128-1725) if red LDC is lit.
NO COLOR	• Tune TV to another channel. Check for color • Adjust color settings in Setup/Picture menu • Verify correct voltage is used to power TV • Verify correct signal type is set in Setup/Channels menu • Perform Auto Program • Replace DATA cable (PD106-741) • Replace main board (PD128-1725) • Replace panel (PD289-126)
CANNOT TUNE TO A DESIRED CHANNEL	• Verify TV is connected to a coax cable that has RF signal • Verify channel is programmed into current service level • Tune to channel with remote • Tune to channel with TV keypad • Verify correct Signal type is set in Setup/Channels menu • Verify Channel Memory Override is enabled in Setup/Channels. • Verify Channel Lock is disabled • Replace main board (PD128-1725)
TV KEYPAD INOPERATIVE	• Verify TV is powered • Check TV operation with remote control • Verify that DATA cable is seated correctly to main chassis connector • Replace glass/keypad (PD128-1727) • Replace main board (PD128-1725)
SNOWY PICTURE	• Verify TV RF signal level is (0 to+10dbmv at the TV) • Tune to another channel • Verify correct Signal type is set in Setup/Channels Manual • Replace DATA cable (PD106-741) • Replace main board (PD128-1725)
NOISY PICTURE	• Verify TV RF signal level is (0 to+10dbmv at the TV) • Tune to another channel • Turn off nearby equipment if possible and isolate noise source • Move TV and cables to minimize or eliminate noise. • Replace main board (PD128-1725)

PICTURE OK, NO EARPHONE SOUND	• Verify earphone is fully inserted into TV's earphone jack • Try a different earphone • Verify TV is not muted. Adjust for maximum volume • Replace head phone jack board (PD128-1716) • Replace main board (PD128-1725)
BLACK OR DIM PICTURE, SOUND OK	• Check for on-screen menu and adjust for maximum brightness • Verify DATA connector is seated on main board • Verify Backlight connectors are plugged in and secure • Replace board, LED driver (PD128-1721) • Replace DATA cable (PD106-741) • Replace main board (PD128-1725) • Replace panel (PD289-126)
PICTURE OK, NO SPEAKER SOUND	• Verify TV is not muted. Verify cable is seated into main chassis and into IR board • Verify earphone is not being used • Verify TV speaker has not been disabled for the current Service Level in the Sound/Internal Speaker Enable menu • Replace speaker (PD106-431) • Replace headphone jack board (PD128-1716) • Check sound. If there is still no sound, replace the main board
LOW VOLUME OR VIBRATION IN SPEAKER	• Check for missing or loose screw in speaker

Reassembly

Reassemble the unit in reverse manner as the disassembly paying special attention to:

- All parts removed in the repair of the TV are reassembled in original manner.
- All circuit boards should be mounted to the chassis with PDISEMS44025 screws (DO NOT over torque).
- All cables should be connected and should be routed as shown in the picture on page 8.
- When reassembling swivel, use a new 5/16-24 nyloc insert lock nut. Reusing the original nut could cause the swivel assembly to loosen over time.

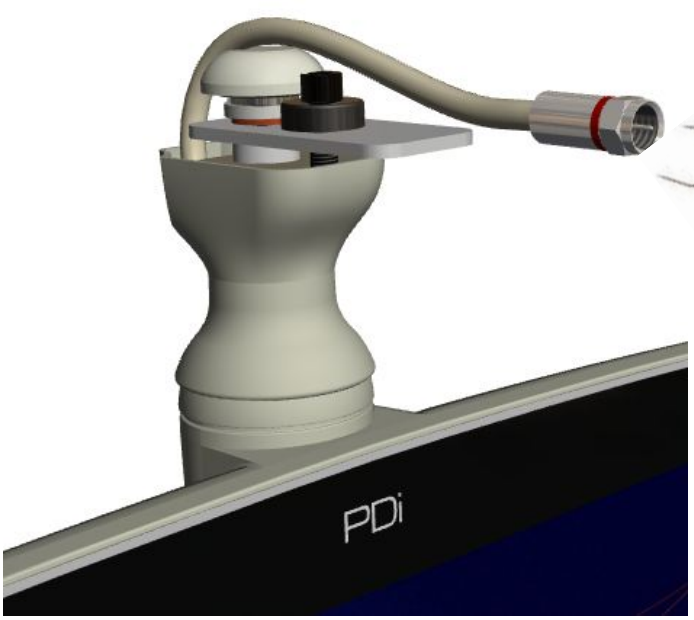
Safety Checks

Swivel Resistance

- Measure the resistance between the TV's swivel and coax shield. The value should read greater than 1 Meg. A lesser reading indicates a possible insulation breakdown or short between the swivel mount and TV chassis which could increase leakage currents touchable by the patient.
- If the reading is less than 1Meg, Inspect the insulators for damage and replace if necessary.
- It is recommended that the reading of the swivel resistance be recorded as part of the service record.

Leakage Current

- Place assembled TV on a non-conductive surface.
- Power the TV from an approved power supply.
- Measure and verify that the leakage current as measured between each of the TV's conductive parts to ground is less than 100 microamperes.
- If leakage currents are greater than 100 microamperes, inspect the TV for insulation or component breakdowns.



Contact Information

For any questions with servicing PDi televisions contact our Service Department at:

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Springboro, OH 45066 USA

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